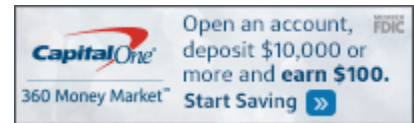


Transportation

This Dupont Circle sidewalk turns footsteps into power



By **Michael Laris** November 30

Aaron Randolph felt the earth move under his feet.

The building engineer was headed to work in the brilliant fall sun when he walked on a strip of triangular tiles embedded in the Dupont Circle sidewalk.

“I stepped on it, and it went down, and I was like, ‘Oh, Lord,’ ” Randolph said.

It was just a little wiggle, like walking on rubber, but it made him nervous enough that he detoured right off the speckled tiles — but not before the kinetic energy from his footsteps had been captured by some of the 68 generators underfoot and stored for use in lighting the District’s newest miniature park.

Less than a mile from the White House, at a time when federal action on climate change is in doubt given President-elect Donald Trump’s skepticism during the campaign, city officials have hatched an environmental experiment that taps the power of the simple stroll.

To do it, they have partnered with nearby businesses and a British inventor whose company, Pavegen, touts its position “at the forefront of the footfall energy-harvesting market.”

The aspirations are vast.

“Imagine this on a large scale, in cities with millions of people walking over it every day,” said Patrick Davies, the deputy British ambassador, who stood on the kinetic tiles as a cockapoo named Mozart and a steady stream of humans strolled by,

This Dupont Circle sidewalk turns footsteps into power - The Washi... <https://www.washingtonpost.com/local/trafficandcommuting/this-d...>
each leaving a bit of power behind. “Whatever your views, it’s generating power for low cost, and it’s completely renewable because people are going to walk along here all the time. So what’s not to like?”

The lump of coal in this Christmas stocking? Cost.

The project — which transformed a sad swath of cement overlooking Connecticut Avenue by adding 194 kinetic pavers, sleek stone benches and flower beds — cost nearly \$300,000, city officials said. About \$100,000 of that went to Pavegen, officials said, adding that the city spent roughly the same amount for underground and other site work to support the high-tech system. The balance, including \$33,000 from the Golden Triangle Business Improvement District, went to completing the project.

Pavegen chief executive and founder Laurence Kemball-Cook said he is focused on honing the technology, upping production and cutting costs.

“Our aim is to make our product the same price as normal flooring,” Kemball-Cook said, estimating they will be close within two years. Electric cars are the model. “We compare ourselves to Tesla. Tesla had a really expensive car that had very low range when it first came out. Now the price has dropped significantly, and the range is going up.”

While “we’re not the most cost-effective solution right now,” Kemball-Cook said, the company’s goal is “to retrofit a sidewalk for the low thousands of dollars in the future.”

Kemball-Cook spent sleepless nights in his early 20s ruminating on energy. The young industrial design engineer was hired by a large German utility to develop a solar streetlight but was thwarted by shade and other problems.

“It didn’t work. I failed. So they fired me,” he said.

The challenges of power and climate change followed him as he made his way through a busy London train station, where he had once read that 35,000 people jostled by per hour.

“Then it kind of clicked. I had this lightbulb moment,” Kemball-Cook said. “What if we could utilize footstep power? What if that could do it?”

So it was that his wood-and-duct-tape prototype became the first generation of commercial tiles, some of which were installed in London’s Heathrow Airport. Then came a jolt of capital from a crowdfunding effort, a major investment from former Apple executive Jeff Martin and the development of a new, dramatically more efficient model that is appearing first in the District.

“It’s triangular, which is like the perfect form,” Kemball-Cook said. “Everywhere you walk, every millimeter, is converting your energy.”

This Dupont Circle sidewalk turns footsteps into power - The Washi... <https://www.washingtonpost.com/local/trafficandcommuting/this-d...>
balancing on a silver connector tied to generators below. The force of a footstep slightly depresses the corners, which accounts for the little wiggle while people walk. The downward force spins a flywheel, complete with magnets and copper, generating the juice.

For the District project, they estimate 10,000 people will amble by on a typical day, generating enough power to keep the LED lights on under the park’s granite benches for six hours. There’s also an interactive set of bulbs in the ground that power up when people walk, jump or do a little jig along one stretch of the tiles.

“It’s a very cool application, certainly something we’re excited to kind of christen here in the District of Columbia,” said Leif Dormsjo, head of the District Department of Transportation, which received a \$200,000 grant from a city environmental initiative, Sustainable DC, for the project. He wants to see how idea meets reality on Washington’s streets, including analyzing maintenance and other costs to see whether it is “something that can be replicated around the city.”

Leona Agouridis, the Golden Triangle’s executive director, said she hopes the “gee-whiz-wow factor” of the pavers will help draw people in to enjoy the reborn public space.

The tiles send out updates on the number of footsteps and energy produced, and Pavegen is finalizing software that will find the number of people, too. Kemball-Cook said a more ambitious data, entertainment and environmental-awareness project is in the works. The company is creating a “digital currency” that smartphone users can earn by walking over Pavegen’s kinetic pavers, he said.

Local Headlines newsletter

Daily headlines about the Washington region.

Sign up

“It has an ability to know who you are once you’ve opted in the system, and you can be rewarded as you walk,” Kemball-Cook said. Discussions are ongoing to see whether such future features will be rolled out in Washington, Kemball-Cook said.

On a recent afternoon, many pedestrians were happily oblivious.

Once Randolph realized what he had just walked over, he was sold. “That’s good, man. I really like that idea, whoever came up with it. They should try to do more of that in the city,” he said.

Jason Lee paused for a moment as he walked by, stopping for a little one-two-three dance on the triangles. He is an architect and has seen such products at conventions, including kinetic pavers with built-in solar panels.

“People understand sustainable energy more,” Lee said. “Even by simply walking, they can save energy in a public space. I think it’s a great step.”

Mike Laris came to Post by way of Los Angeles and Beijing. He’s written about the world’s greatest holstein bull, earth’s biggest pork producer, home builders, the homeless, steel workers and Italian tumors. 🐦 Follow @mikelaris

PAID PROMOTED STORIES



10 Normal Things The Bible Forbids But We Still Do

HorizonTimes



How Two Boston Grads Are Disrupting a \$19 Billion Industry

EverQuote



These Breathtaking Treehouses Will Take You Back To Your Childhood

dailyjust



The 10 Best Places to Vacation in the U.S.

AARP



Thinking About Going Solar? Read This First

Home Solar Programs



Donald Trump's Advice For Paying Off Mortgage (It's Genius!)

Bills.com